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METHOD AND APPARATUS FOR INSERTING BLANKS TO BE THREADED INAUTOMATIC ROTARY ROLLING MACHINES

1 *This application is a 35 USC 371 of PCT/EP03/07239 filed 7/7/2003.*  
 The present invention relates to a method and to an apparatus for inserting blanks to be threaded in automatic rotary rolling machines.

5 Rolling machines for forming screws are known in which the thread is generated by cold rolling.

Among these, rotary rolling machines, in which the blank to be machined is rolled by virtue of a system of threaded rollers, are widely used.

10 In particular, one type of rolling machine is the roller and sector rotary type, in which there is a single roller tool and the part is rolled under pressure between the tool and a semicircular guide.

These kinds of machine usually include an automatic device for inserting the parts in the working position, which is actuated by a kinematic system, generally of the cam type, connected to the tool supporting spindle.

15 Usually, the tool supporting roller has a number of thread starts that varies between 10 and 60, depending on its diameter and on the diameter of the screw to be formed.

The cam of the kinematic system connected to the spindle must be sized so that the insertion of a part occurs at one of the starts of the roller tool.

20 Accordingly, the number of parts inserted at each turn of the spindle is a submultiple of the number of starts of the roller.

This entails that with this kind of insertion device, which is automated in a rigid manner, at each turn the parts are always inserted at the same starts of the roller, causing increased wear of the corresponding portions of the outer surface of the roller.

25 The consequence of this is an uneven wear of the threaded outer surface of the roller, which entails a reduction in the life of the tool.

US-3733867 discloses a thread rolling machine provided with a rotary die having multiple starts of a thread form and workpieces are fed in synchronism so that the starting points of threads on successive workpieces gradually moves around the periphery of the die.

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